D2 mixture of methyl sulfuryl chloride and diethyl amine, and a mixture of triphenylphosphine, carbon tetrachloride and triethylamine.

REMARKS

Upon entry of the proposed amendments eight (8) claims are pending in this application. The amendment to claim 27does not add new matter to the application. The additional of claim 38 does not add new matter to the application. Support for claims 27 and 38 may be found in claims 1, 27-33 as originally filed.

In the Office Action

> Claims 27-37 are rejected under 35 U.S.C. § 103 (a) as being unpatentable Kamel. Applicants' claims have been amended to recited that the surfacte of the device comprises hydroxyl groups and to recite that the coupling agent is carbodiimide. Kamel discloses polymers of hydroxylethyl methacrylate in column 12, line 35. Kamel discloses carbodiimide in claim 13. It would be obvious to one of ordinary skill in the art to treat a device made of a polymer of hydroxyethyl methacrylate with a first biocompatible material having carboxylic acid groups with carbodiimide as cross-linking agent. Applicants' arguments have been considered but are not persuasive. Applicants do not acknowledge that Kamel discloses polymers of hydroxyl ethyl methacrylate and applicants do not acknowledge that Kamel discloses carbodiimide.

Applicants respectfully traverse this rejection for the following reasons.

Applicants claim a method of applying a coating effective amount of least one carboxyl function hydrophilic polymer to a biomedical device, wherein at least one surface of said device comprises hydroxyl groups, amino groups, or mixtures thereof. *See* claim 27. Kamel discloses "[a] method of modifying the surface of a substrate material ... comprising covalently grafting a polymeric first biocompatible material to the surface of the substrate material by radio frequency plasma induction, the biocompatible material having pendant terminal carboxylic acid or amine groups. *See* Kamel, claim 1 underlining added for emphasis. Kamel teaches that the "first biocompatible material should be grafted to the substrate material in a relatively uniform thickness and texture along the surface of the substrate material." *See* Kamel col. 5, lines 57-59. Further Kamel discloses that a second biocompatible

material may be cross-linked to the pendant carboxylic acid groups or the pendant amine groups of said first biocompatible material. *See* Kamel, col. 8, lines 33-41. The cross-linking of the second biocompatible material to the carboxylic acid or amine groups of the first biocompatible material requires cross-linking agents such as carbodiimide. *See* Kamel cols. 8, lines 67-68, col. 9, lines 1-15.

Although Kamel teaches that carbodiimide may be used to cross-link a layer (of uniform thickness) of the first bicompatible material to the second biocompatible material; Kamel does not teach or suggest that carbodiimide may be used to cross-link biocompatible materials to any groups of the substrate polymer. Kamel teaches plasma grafting as the method for attaching a biocompatible material to the surface of a polymer and not treatment with a cross-linking agent such as carbodiimide. Therefore Applicants respectfully submit that their invention as claimed, namely the treatment of a substrate polymer containing hydroxyl or amino groups thereon with a coupling effective amount of a carboxyl functional polymer, is not obvious in view of the teachings of Kamel.

In light of the foregoing, amendments and reasoning Applicants respectfully assert that all claims are in condition for allowance. A notice of allowance of all claims is respectfully solicited. A marked version of the amended claims follows where deletions are noted by a strike through (~~text~~) and additions are underlined (text). If the Examiner believes an interview would expedite the disposition of this patent application, the Examiner is invited to call the undersigned agent collect at (732) 524-1024.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO AMENDED SPECIFICATION AND CLAIMS

The following amendments were made to the claims

27. (Twice amended) A process for ~~manufacturing biomedical devices,~~ applying a coating effective amount of at least one carboxyl function hydrophilic polymer to a biomedical device, wherein at least one surface of said device comprises hydroxyl groups, amino groups, or mixtures thereof,

wherein the process comprises contacting at least one surface of a biomedical device with a coating effective amount of at least one carboxyl functional hydrophilic polymer and a coupling effective amount of at least one coupling agent, wherein the coupling agent is selected from the group consisting of carbodiimides, N,N'-carbonyldiimidazole, phosphoryl chloride, titanium tetrachloride, sulfuryl chloride fluoride, chlorosulfonyl isocyanate, phosphorus iodide, pyridinium salts of tributyl amine, phenyl dichlorophosphate, polyphosphate ester, chlorosilanes, a mixture of tributyl phosphorous and phenyl isocyanate, a mixture of alkyl chloroformates and triethyl amine, a mixture of 2-chloro-1,3,5-trinitrobenzene and pyridine, a mixture of methyl sulfuryl chloride and diethyl amine, and a mixture of triphenylphosphine, carbon tetrachloride and triethylamine.